This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-7. (Canceled)

8. (Previously Presented) A computer program product for controlling the movement of a carrier traveling within a material transport system having a first track zone independently controlled from a second track zone and a control logic computer, wherein the control logic computer includes a computer memory and a computer mechanism defined therein, the computer mechanism comprising:

a first control thread configured to control and monitor operations of the first track zone;

a second control thread configured to control and monitor operations of the second track zone;

wherein said first control thread communicates with said second control thread so that said first control thread and second control thread cooperatively accomplish transferring the carrier from the first track zone to the second track zone.

9-29. (Canceled)

30. (Previously Presented) The computer program product of Claim 8:

wherein said first track zone and said second track zone are operable to accelerate the carrier being transported within them; and

wherein said first control thread causes said first track zone to accelerate the carrier to a first target value, determines a second target value to which the carrier should be accelerated by said second track zone, and issues a command to said second control thread indicating said second target value.

31. (Previously Presented) The computer program product of Claim 30, wherein said first track zone and said second track zones are used to transport the carrier between processing stations.

32. (Previously Presented) The computer program product of Claim 8, further comprising:

a third control thread configured to control and monitor operations of a third track zone;

and

said third track zone is neighboring said first track zone and said second track zone.

33. (Currently Amended) The computer program product of Claim 8 wherein said first track zone comprises at least one of:

a zone including a length of track, at least one drive motor and at least one sensor;

a director capable of rotating a carrier ~~providing rotational movement~~ between zones; and

a Load Port Transfer Device.

34. (Previously Presented) The computer program product of Claim 8 wherein said material transport system comprises a transport system employed in a manufacturing facility selected from a semiconductor manufacturing facility, a flat panel display manufacturing facility, a magnetic storage disk drive manufacturing facility or a pharmaceutical manufacturing facility, such that:

when used in the semiconductor manufacturing facility, the material transport system is used to move semiconductor wafers between processing stations;

when used in the flat panel display manufacturing facility, the material transport system is used to move flat panels or flat panel components between flat panel manufacturing stations;

when used in the magnetic storage disk drive manufacturing facility, the material transport system is used to move magnetic storage disks or disk assemblies between disk drive manufacturing stations; and

when used in the pharmaceutical manufacturing facility, the material transport system is used to move pharmaceutical components between pharmaceutical manufacturing stations.

35. (Previously Presented) The computer program product of Claim 8 further comprising:

a first low-level controller coupled to said control logic computer and to said first electromechanical device wherein said first control thread communicates with said first low-level controller.

36. (Previously Presented) The computer program product of Claim 35 wherein said first low-level controller is a first zone controller associated with a first track zone, wherein:

said first zone controller is configured to control and receive zone status information and to send messages to and receive messages from said first zone thread.

37. (Previously Presented) The computer program product of Claim 36 wherein said first zone thread is configured to:

determine using said zone status information when the carrier is entering said first track zone;

determine from stored information updated by a neighboring, upstream zone thread an entry speed at which the carrier is entering the respective track zone;

issue a motor control command to the respective track zone to establish the speed of the carrier in accordance with a speed profile message forwarded by the upstream zone thread and the entry speed;

determine from the stored information updated by neighboring, downstream zones the speed at which the carrier should enter a neighboring downstream zone;

determine from a potential entry speed and location of a destination of the carrier a speed profile of the material in one or more neighboring, downstream zones; and

send the speed profile message to the one or more neighboring, downstream zones causing the speed profile to be executed.